Vanguerieae A. Rich. ex Dum. (Rubiaceae) in Australia, 1. *Everistia* S.T.Reynolds & R.J.F.Hend.

S. T. Reynolds & R. J. F. Henderson

Summary

Reynolds, S.T. & Henderson, R.J.F. (1999). Vanguerieae A.Rich. ex Dum. (Rubiaceae) in Australia, 1. *Everistia* S.T.Reynolds & R.J.F.Hend. *Austrobaileya* 5(2): 353-361. The Australian representatives of tribe Vanguerieae have been revised. Three genera, viz. *Everistia* S.T. Reynolds & R.J.F.Hend. gen. nov. (one species), *Cyclophyllum* Hook.f. (9 species) and *Psydrax* Gaertn. (23 species) occur here. Australian plants formerly included in *Canthium* Lam. belong to these genera. In this paper, the following new combinations are made for some of them: *Everistia vacciniifolia* (F.Muell.) S.T.Reynolds & R.J.F.Hend. (*Canthium vacciniifoliium* F.Muell.), *Everistia vacciniifolia* var. *nervosa* S.T.Reynolds & R.J.F.Hend. and *Everistia vacciniifolia* f. *crassa* S.T.Reynolds & R.J.F.Hend. All recognised taxa of *Everistia* are described, and relevant keys, distributional maps and line drawings are provided.

Keywords: *Everista*, Vanguerieae, Rubiaceae, key, taxonomy, *Everista vacciniifolia*, Australian flora, Queensland, New South Wales.

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Introduction

Recent studies evaluating the genus *Canthium* Lam. in Africa have resulted in the splitting of the genus and reinstatement of some of the genera previously combined with *Canthium*. Bridson (1985) reinstated the genus *Psydrax* Gaertn. and included the African species and one Australian species (*P. lamprophylla* (F.Muell.) Bridson) in it. She later (Bridson 1987, p. 616) suggested transfer of several other species to this genus. She characterised the New Caledonian genus *Cyclophyllum* Hook.f. and discussed it as one of several groups of Vanguerieae allied to *Pyrostria* Comm. ex Juss. noting that "the question of whether recognition of *Cyclophyllum* should be generic or at an infrageneric rank of *Pyrostria* (or even *Canthium)* remains to be settled". Bridson (1992) noted that neither *Canthium* sensu stricto nor any species approaching it occurs in Australia, Papuasia or the Pacific Ocean basin, and that taxa from this region previously included under the name *Canthium* Lam. are referrable to either *Psydrax* Gaertn. or *Cyclophyllum* Hook.f.

This study confirmed that the majority of the Australian species of Vanguerieae are referable to *Psydrax* or *Cyclophyllum* as they agree quite well with others of those genera from outside Australia. An exception is *Canthium vacciniifolium* F.Muell. This species differs from related Australian species by its deeply 2-lobed, ovoid stigma, which has a convex base, much-branched habit, its small usually nerve-less leaves and its 1–3-flowered umbelliform inflorescences with delicate flowers. It is therefore treated as belonging to a distinct new genus described as *Everistia* in this account.

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Taxonomy

Key to genera of tribe Vanguerieae in Australia

1. Stigma oblongoid, concave at the base; style (usually much) exceeding the corolla tube; inflorescences usually of branched pedunculate cymes, usually with secund flowers and a long-stalked central flower near branch forks ..... **2. Psydrax**

   Stigma capitate or ovoid, convex at the base; style as long as or slightly exceeding the corolla tube; inflorescences of sessile or short-peduncled umbelliform cymes **2**

2. Stigma ovoid, deeply 2-lobed; cymes pedunculate, 1–3-flowered; corolla tube delicate, with a band of reflexed filiform hairs at throat; anthers on distinct filaments, lacking dark coloured connective tissue dorsally; plants usually much branched (intricately branched); leaves nerveless or obscurely nerved ..... **1. Everistia**

   Stigma capitate, obscurely 2-lobed; cymes sessile or pedunculate, 1–12-flowered; corolla tube fleshy, usually with dense long moniliform hairs projecting from mouth, but lacking reflexed hairs; anthers subsessile, with dark coloured connective tissue dorsally; plants few-branched; leaves conspicuously nerved ..... **3. Cyclophyllum**

***Notes*:** Only *Everistia* is treated in this paper; *Cyclophyllum* and *Psydrax* will be dealt with in forthcoming issues of Austrobaileya.

This study is based mostly on herbarium material. Measurement ranges given for leaves, inflorescences, flowers and fruit are based on dried, fresh or spirit material.

In the citation of specimens, only herbaria whose specimens have been seen are listed; districts are provided only for Queensland collections.

Everistia S.T.Reynolds & R.J.F.Hend. **gen. nov.** a *Psydrace* Gaertn. et *Cyclophyllo* Hook.f. stigmate profunde bilobo ad stylum per basem convexam affixo, habitu multo ramoso, foliis parvis plerumque enervibus, floribus delicatis differt. **Typus**: *Everistia vacciniifolia* (F.Muell.) S.T.Reynolds & R.J.F.Hend. (*Canthium vacciniifolium* F.Muell.)

Shrubs or small trees, erect, scandent or prostrate, usually much branched; branchlets (especially when young) usually spinose; spines usually at tips of branchlets or supra-axillary or leaf opposed, entire or sometimes forked. Leaves nerveless or obscurely nerved. Inflorescences umbelliform, with 1–3 flowers in fascicles on short slender peduncles; pedicels exceedingly slender; flowers 4- or 5-merous; corolla with short or long tube, with reflexed hairs at throat; corolla lobes acute to acuminate and sometimes long attenuated at apex; stamens exserted; anthers oblongoid, dorsifixed; style as long as or longer than corolla tube; stigmatic knob ovoid, fleshy, with two, broad, ± flattened, ovate, recurved lobes, convex at the base. Fruit ellipsoidal or obovoid, slightly fleshy, blackish when ripe, 2-lobed; pyrenes hemispherical, adaxially flattened, woody, exceedingly rugose abaxially; cotyledons borne more or less parallel to ventral face of seed.

***Distribution*:** Endemic in Australia; represented by one very variable species.

***Diagnostic characters*:** *Everistia* is characterised by its much-branched habit (the divaricate intricately branched branches often forming an entangled mass), slender branchlets which are often spinose, obscurely nerved or nerveless leaves, fragile 1–3-flowered umbelliform inflorescences, delicate 4- or 5-merous flowers and deeply 2-lobed stigma.

***Affinities*:** *Everistia* resembles *Psydrax* Gaertn. and *Cyclophyllum* Hook.f. in the placement of the cotyledons and is closely

related to these genera. It resembles *Psydrax* in its corolla (with a band of reflexed hairs at the throat of the corolla tube), exserted erect stamens and umbelliform inflorescences. This type of inflorescence although not known in the species of *Psydrax* in Australia, is present in some African species of that genus (Bridson 1985). It resembles *Cyclophyllum* in its umbelliform inflorescence and stigma with convex base.

Etymology: This genus is named in honour of the late Dr Selwyn L. Everist, a former Director of the Queensland Herbarium (1954-1976), who gave us the opportunity to work in our particular field of botanical interest and who supported and encouraged many a botanist during his directorship at BRI. Dr Gordon Guymer, current Chief Botanist at BRI, is thanked for suggesting this name.

1. Everistia vacciniifolia (F.Muell.)S.T. Reynolds & R.J.F.Hend., **comb. nov.**

Canthium vacciniifolium F.Muell., Trans. Phil. Inst. Vict. 3: 47 (1859). **Type:** Queensland. SOUTH KENNEDY DISTRICT: Suttor River, *F. Mueller* s.n. (lecto, here designated: MEL [MEL 1538572]; isolecto: K).

Shrubs or small trees 1–7 m high, erect to scandent to prostrate; bark grey or creamy grey, smooth; trunk straight with spreading uniplanar or divaricately branched branches; branches and branchlets often intricately branched and forming an entangled mass giving the plant a rounded appearance; branchlets greyish-brown and with white streaks, glabrous or hairy with minute, spreading hairs, terete, slender, stiff, straight or sometimes flexuose or curved (sometimes recurved), spinose distally especially in young growth, with few scattered leaves or occasionally leaf-less and spinescent; spines bifurcate or entire, straight, often thickened at base, at tip of short leafless branchlets, leaf-opposed or supra-axillary; leaf lamina surfaces, stipules, petioles, peduncles, pedicels and calyx with minute spreading hairs or glabrous. Petioles 0.5–2.0 mm long; stipules comparatively small, ovate, abruptly acuminate with a short folded lobe at apex, thick or thin, coriaceous; leaf laminas elliptic, obovate or suborbicular, 3.5–17.0 x 3.5–10.0 mm, obtuse or retuse at apex, obtuse, ± truncate or acute at base, flat or recurved at margins, flat or slightly convex or concave and broadly channelled at midrib adaxially, thick or thin, coriaceous; adaxial surface shiny; abaxial surface dull; midrib slender, sometimes not apparent; lateral nerves in 1 or 2 pairs, obscure, very fine, arching, usually visible on abaxial surface, or nerves absent. Peduncles 0.5–5.0 mm long; bracts minute, ovate. Flower buds 4.0–7.0 (–9.0) mm long, slender, sometimes fleshy, with apex obtuse and apiculate or acuminate; pedicels 0.5–5.0 mm long; calyx 1.0–1.25 mm long; limb 4 (or 5)-denticulate with minute ovate lobes; corolla yellow, 5.0–9.0 mm long; tube slender, dilated or inflated at throat, 3.0–4.5 mm long, c. 2.5 mm wide at mouth, sparsely hairy with a band of reflexed filiform hairs at throat; lobes erect or recurved, ovate or lanceolate, 2.5–5.0 x 1.0–2.0 mm, with apex acute or subobtuse and apiculate or subacuminate or acuminate and usually with a long recurved acumen, hairy, often papillose near apex; stamens exserted; filaments 0.75–2.5 mm long; anthers oblongoid, 1.0–2.5 mm long; style with stigma 4–8 mm long, exserted or included. Fruit 4.0–7.0 x 4.0–7.0 mm, smooth, usually topped by remnants of calyx.

Notes: *E. vacciniifolia* is readily distinguishable by its much-branched habit, stiff, slender, often spinose branchlets, straight unbranched or bifurcate spines, small, elliptic or obovate, faintly nerved or nerveless leaves, small, fragile, shortly pedunculate 1–3-flowered umbelliform inflorescences, and obtuse- to acuminate-tipped flower buds.

The species as circumscribed here is extremely variable in its aspect, branching, shape and texture of leaf laminas and in the shape of its flower buds. Two varieties are recognisable; these are connected by intermediate forms.

Key to varieties of *Everistia vacciniifolia*

1. Leaves 3.5–9.0 x 3.5–8.0 mm; lamina slightly concave or flat, coriaceous, thick; lateral nerves not apparent; flower buds 4.0–7.0 mm long, obtuse or abruptly narrowed and apiculate, or rarely subacuminate at apex; peduncles and pedicels 0.5–2.0 mm long; usually much-branched shrubs or small trees with divaricate branching . . (a) **E. vacciniifolia** var. **vacciniifolia**
   Leaves 12.5–17.0 x 9.0–10.0 mm; lamina flat, coriaceous, thin (drying very thin); lateral nerves distinct; flower buds 7.5–9.0 mm long, long acuminate at apex; peduncles and pedicels 2.0–5.0 mm long; usually small trees with planar layered branching. . . . . (b) **E. vacciniifolia** var. **nervosa**

(a) E. vacciniifolia var. vacciniifolia

Shrubs, erect or prostrate, usually much branched with divaricate branched branchlets; branchlets densely leafy and straight or recurved distally, or with a few scattered leaves and spinose, or sometimes leafless when short and spinescent. Leaf laminas flat or slightly concave, with flat or recurved margins, thick, coriaceous, nerveless or rarely obscurely nerved, with surfaces minutely hairy or glabrous. Peduncles slender, 0.5–2.0 mm long; flower buds 4.0–7.0 mm long, slightly fleshy, obtuse and apiculate or abruptly narrowed and crowned by minute lobes at apex; corolla tube slender, slightly dilated or inflated at throat; lobes obtuse, apiculate or sometimes subacuminate.

This variety varies greatly in the shape and texture of its leaf laminas. Two forms of it are formally recognised here. These forms occasionally overlap in their characters.

Key to forms of *Everistia vacciniifolia*

1. Leaf laminas flat or slightly concave or deeply grooved along the middle adaxially; margins flat or recurved; adaxial surface slightly shiny, hairy or glabrous; nerves absent. . . . . (i) **E. vacciniifolia** forma **vacciniifolia**
   Leaf laminas flat; margins flat; adaxial surface shiny, glabrous; nerves obscure or absent . . . . . (ii) **E. vacciniifolia** forma **crassa**

(i) E. vacciniifolia f. vacciniifolia

Shrubs with divaricate branching; branches often much branched and forming an entangled mass; branchlets distally straight or curved; leaf laminas with nerves not apparent, minutely hairy or glabrous. Flower buds 4.0–5.5 mm long, usually obtuse and shortly apiculate at apex; corolla tube 2.5–3.0 mm long, slightly dilated at throat; lobes 2.5–3.0 x 1.0–1.5 mm, subobtuse or acute. (Fig. 1A)

***Representative specimens*: Queensland.** LEICHHARDT DISTRICT: Junee Tableland, 80 km N of Dingo, Jun 1972, *McDonald* 554 (BRI); Kaiuroo, 23°05'S, 149°18'E, Feb 1993, *Fensham* 713 (BRI); Murphy Range, 57 km from Taroom on Glenhaughton road, 25°25'S, 149°30'E, Sep 1992, *Forster* PIF 11226 & *Sharpe* (BRI); ditto, Oct 1993, *Forster* PIF 14111 & *Holland* (BRI). PORT CURTIS DISTRICT: Fitzroy River, May 1863, *Dallachy* s.n. (MEL); Double Head Yeppoon, Emu Park, May 1970, *Telford* 1700 (CANB). BURNETT DISTRICT: Monogorilby, Mundubbera Shire, 26°01'S, 151°01'E, Dec 1984, *Forster* PIF 344B (BRI). DARLING DOWNS DISTRICT: Chinchilla, May 1946, *White* 1122 (BRI, CANB). MORETON DISTRICT: Brisbane River, *Hill* s.n. [MEL 15385711] (MEL).

***Distribution and habitat*:** Central and southern Queensland, between Suttor and Brisbane Rivers; usually in dry scrubs especially in or at the edge of Brigalow (*Acacia harpophylla* F.Muell. ex Benth.) scrubs, on dry ridges, jump-ups, slopes and gullies, on sandy stony soils. Map 1.

***Notes*:** This form varies greatly in its aspect, branching, leaves and shape of flower buds. Specimens from along the Fitzroy, Dawson, Burnett and Brisbane Rivers usually have robust stiff branchlets, which are mostly arching especially towards their tips or are

short and sometimes spinescent, small elliptic or orbicular, ± concave leaf laminas with usually recurved margins, shortly stalked inflorescences and obtuse and apiculate flower buds. Specimens from other areas, however, have thicker, narrow or broad, flat leaf laminas and usually more slender and longer flower buds; some of these approach *E. vacciniifolia* f. *crassa*, and probably represent intergrades between the forms.

***Typification*:** Mueller (1859) cited "Barren scrubby localities near the Burdekin, Suttor, McKenzie, Dawson and Burnett rivers" in his protologue of *Canthium vacciniifolium*. Only one of the collections on which Mueller apparently based his description, viz. Suttor River, leg. *Mueller* s.n. (K, MEL), has been seen in this study. The MEL specimen of this collection is here chosen as lectotype of this species' name. The specimen, which is in flower, agrees well with Mueller's protologue description.

(ii) E. vacciniifolia f. **crassa** S.T.Reynolds & R.J.F. Hend., **forma nov.** a *E. vacciniifolia* (F.Muell.) S.T.Reynolds & R.J.F.Hend. f. *vacciniifolia* laminis foliorum crassis differt. **Typus**: Queensland. Port Curtis District: Neerkol Creek, *Bowman* 21 (holo: MEL [MEL 1538080]).

Shrubs with divaricate or planar layered branching; branchlets rarely arching distally; leaf laminas with nerves and midrib not apparent or rarely visible but obscure, glabrous. Flower buds 5.5–7.0 mm long, abruptly narrowed at apex and crowned by short narrow lobes; corolla tube 3.5–4.5 mm long, usually inflated at throat; lobes 2.5–3.0 x c.1.5 mm, subacuminate.

***Representative specimens*: Queensland.** Cook District: 40 Mile Scrub, 18°15'S, 141°45'E, Feb 1972, *Hyland* 5874 (BRI). Burke District: Mt Walker, near Hughenden, 20°5-'S, 144°1-'E, Apr 1935, *Blake* 8442 (AD). North Kennedy District: Mingela Bluff, 19°53'S, 146°45'E, Jan 1992, *Forster* PIF 9416 & *Bean* (BRI). Mitchell District: Cuttsy's Springs, about 30 miles (48 km) ESE of Yalleroi, Feb 1940, *Everist* 1965 (BRI); Jericho, Mar 1920, *Francis* 106 (BRI). South Kennedy District: Near Glendon, Sep 1950, *Smith* 4625 (BRI); 7 km NE of Belyando Crossing on Gregory Development Road, 21°30'S, 146°48'E, Jun 1992, *Thompson* 460 & *Sharpe* (BRI). Port Curtis District: Gainsford, date unknown, *Bowman* s.n. (MEL) (see below).

***Distribution and habitat*:** Northern and central western Queensland; in deciduous vine thickets on rocky hillsides and on sandstone. Map 1.

***Notes*:** This form is characterised by its flat, thick leaf laminas with slightly shiny adaxial surfaces, long flower buds and subacuminate corolla lobes. It resembles *E. vacciniifolia* var. *nervosa* in its planar layered branching, flat leaf laminas and long flower buds and corolla, but differs from that by its stout branchlets with closely arranged leaves, thick, usually nerveless leaves, and comparatively short peduncles and pedicels. *E. vacciniifolia* var. *nervosa* is a sparsely branched plant with leaves usually widely spaced on the branchlet, leaves thin and distinctly nerved, flower buds slender and usually slightly fusiform, and peduncles and pedicels comparatively long.

The label attached to Bowman's unnumbered specimen of this taxon in MEL [MEL 1538079] is annotated 'Gainsford', whereas the label attached to the specimen is annotated 'Herbert Creek'. This specimen appears to be from the same collection as a specimen in MEL labelled as collected at Herbert Creek by Bowman [MEL 1538069]. Both Gainsford and Herbert Creek are close to Neerkol Creek (Blake 1955), where the holotype was collected.

***Etymology*:** The epithet *crassa,* Latin for thick, refers to the compartively thick leaf laminas in this form.

(b). E. vacciniifolia var. **nervosa** S.T.Reynolds & R.J.F.Hend., **nom. & stat. nov.**

Canthium microphyllum F.Muell., Fragm. 2: 134 (1861). **Type:** Queensland. Moreton District: Brisbane River, Moggill Scrub, *F. Mueller* s.n. (lecto, here designated: MEL [MEL 1538076]; isolecto: K).

Small trees or large shrubs, usually with a straight slender trunk and spreading layered branching; branchlets more or less borne in the same plane as the main branches or occasionally suberect with divaricate branches. Leaves usually widely spaced on

branchlets; laminas flat, glabrous, coriaceous, thin (drying very thin), slightly shiny on adaxial surface; midrib and nerves usually visible on the abaxial surface; lateral nerves in 1 or 2 pairs, very slender, slightly arching. Peduncles and pedicels filiform; flower buds fragile, 7.5–9.0 mm long, with a slender tube and acuminate lobes at apex; corolla tube slender, 3.5–4.5 mm long; lobes lanceolate, 3.5–5.0 mm long, acuminate with a long recurved acumen at apex. (Fig. 1B)

***Representative specimens*: Queensland.** PORT CURTIS DISTRICT: Dan Dan Scrub, State Forest 53, Calliope Shire, Dec 1984, *Gibson* 699 (BRI). WIDE BAY DISTRICT: NW base of Boogooramunya, State Forest 648, 25°51'S, 152°08'E, Jan 1989, *Forster* PIF4913 (BRI); Mt Eerwah, about 4 km W of Eumundi on Kenilworth road, 25°28'S, 152°55'E, Dec 1987, *Sharpe* 4759 (BRI); 1 km S of barracks, Oakview State Forest 220, 26°07'S, 152°20'E, Dec 1988, *Forster* PIF4861 & *Orford* (BRI). BURNETT DISTRICT: Yarraman State Forest (State Forest 289), Neumgna, 26°56'S,151°49'E, King Logging Area, just N of junction of Cooyar-Maidenwell road and New England Highway, Dec 1987, *McDonald* 4135 & *Williams* (BRI). MORETON DISTRICT: McIntyre Scrub, 6 km W of Woombye, 26°39'S, 152°54'E, Jan 1990, *Forster* PIF6204, *Bird & Bean* (BRI); Woongaroo Creek, S of Goodna, 27°40'S, 152°45'E, Nov 1983, *Williams* 83021 (BRI); Moggill, Brisbane, 27°3-'S, 152°5-'E, Feb 1984, *Oakman* s.n. (BRI); Norman's Creek, Moreton Bay, Jul 1843, *Leichhardt* s.n. [NSW 193686] (NSW); Mt French, 6 km SW of Boonah, 28°02'S, 152°40'E, Jan 1983, *Telford* 9079 & *Butler* (CANB). **New South Wales.** Totties Mount, Ramornie, Jul 1922, *Blakely & Shiress* s.n. [NSW 193685](NSW); Pikapene State Forest, about 12 miles (19 km) directly SE of Tabulan, Nov 1966, *Hayes, Turner & McGillivray* 2649 (BRI); ditto, Apr 1969, *Pickard & Blaxell* 255 (NSW); MacLeay River, date unknown, *Beckler* s.n. [MEL 1538073](MEL); Broken Bago State Forest, about 9 km SW of Wauchope, Nov 1980, *Coveny* 10922 (NSW).

***Distribution and habitat*:** Central and southeastern Queensland to Hunter River, New South Wales; usually in Araucarian microphyll vine forests, on reddish coloured soils; along creeks and rivers, and on slopes. Map 1.

***Notes*:** *E. vacciniifolia* var. *nervosa* is readily recognisable by its usually layered branching spreading out from a single stem, finely nerved leaf laminas, leaves widely spaced on branchlets, and by its long, fragile, acuminate flower buds and acuminate corolla lobes.

The leaves of this variety are variable. Specimens with thin, finely nerved leaves are typical whereas specimens with comparatively thicker leaves and obscure nerves approach *E. vacciniifolia* f. *crassa*. The latter taxon, however, differs from them in its shorter peduncles and pedicels which are 0.5–2.0 mm long, and obtuse- or acute-tipped flower buds.

Canthium microphyllum F.Muell. was combined with *C. vacciniifolium* F.Muell. by both Bentham (1867) and Mueller (1875) without any formal infraspecific recognition. It is recognised at varietal level here because although the taxa intergrade, their extremes are very distinctive.

***Typification*:** Mueller (1861) cited three collections, viz. Brisbane River, *Hill* s.n., ditto, *Mueller* s.n., and Rockhampton, *Thozet* s.n., with his diagnosis of *Canthium microphyllum*. Of these, Mueller's collection from Brisbane River, annotated 'Moggill Scrub, Brisbane River', at MEL [MEL 1538076] is here chosen as lectotype of this name. The lectotype, which is in flower, agrees well with the original description.

The syntype from Brisbane River collected by Hill [MEL 1538571] is *E. vacciniifolia* var. *vacciniifolia*, whereas the syntype from Rockhampton collected by Thozet s.n. [MEL 1538078] is also *E. vacciniifolia* var. *nervosa*.

***Etymology*:** The new epithet *nervosa*, Latin for nerved, referring to the usual obscurely nerved leaf laminas, is proposed rather than making a new combination from Mueller's *Canthium microphyllum* because the leaves of this variety are usually much bigger than those of *E. vacciniifolia* var. *vacciniifolia*.

Unplaced specimens of *E. vacciniifolia*

Canthium sp. (Massy Creek P.I.Forster +PIF 10568), (Reynolds 1997, p. 180).

The collections listed below probably represent another variety or form of this species, but are insufficient to be sure. They resemble *E. vacciniifolia* var. *vacciniifolia* in their short peduncles and pedicels, and *E. vacciniifolia* var. *nervosa* in their long flower buds with pointed apices. However, they have a different aspect from both these varieties in attributes of their branchlets, their subobovate or elliptic leaf laminas and the shape of their flower buds. As only three of the collections

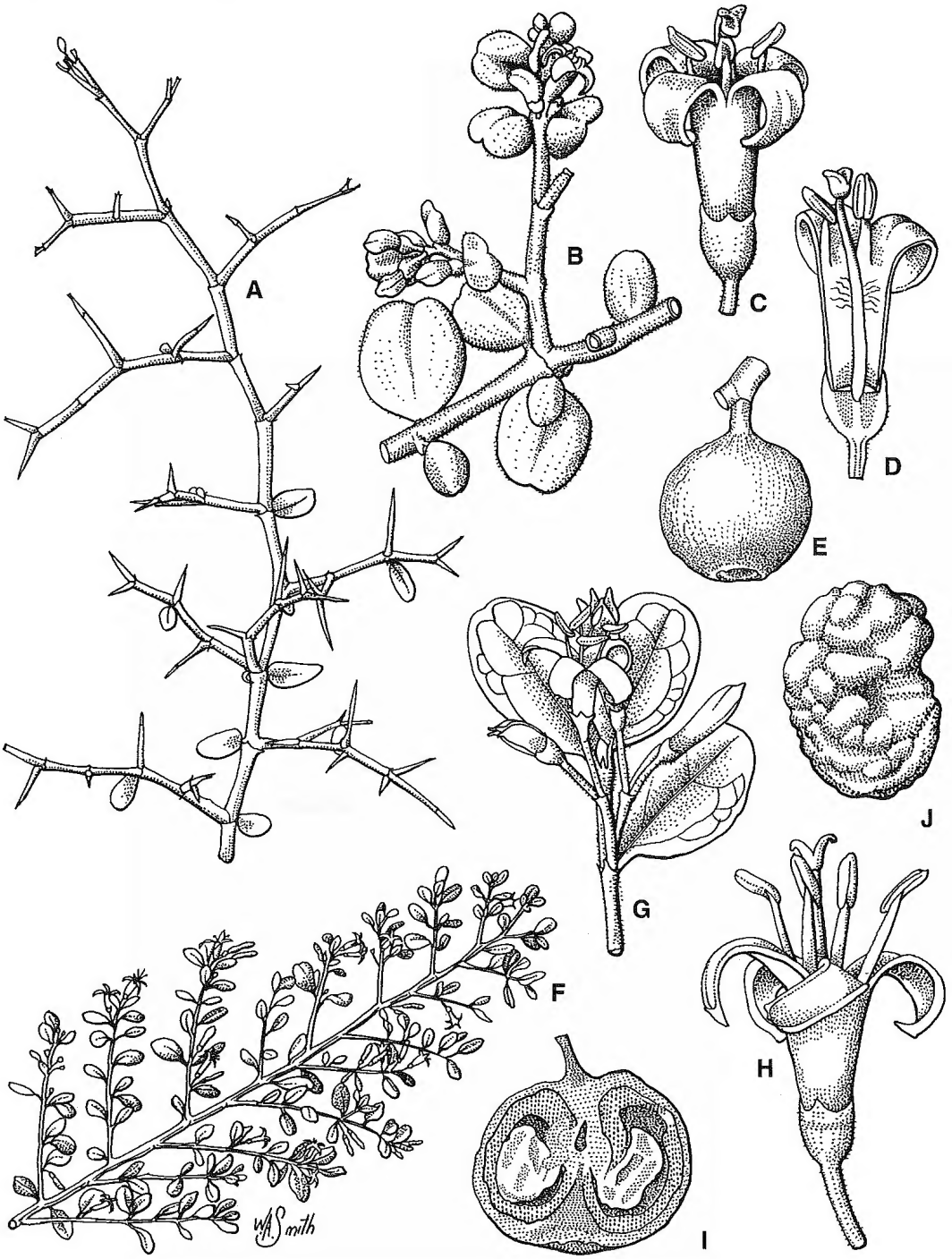

Fig. 1. A-E. ***Everistia vacciniifolia*** **var.** ***vacciniifolia.*** A. juvenile branch × 1.5. B. portion of flowering branch × 2. C. flower × 6. D. longitudinal section of flower × 6. E. fruit × 6. (A from *Myers* s.n. (BRI [AQ 124017]); B- D from *Forster* PIF14111 (BRI); E from *Forster* PIF9097 (BRI)). **F-J.** ***E. vacciniifolia*** **var.** ***nervosa.*** F. flowering branch × 0.8. G. detail of leaves and inflorescence × 3. H . flower × 6. I. longitudinal section of fruit showing embryos × 6. J. abaxial view of pyrene × 9. (F from Lebler 1978, p.530; G from *Forster* PIF12062 (BRI); H from *Forster* PIF4919 (BRI); I,J from *Forster* PIF3750 & *Bolton* (BRI)).

have a few depauperate flowers on them, and their leaves are also variable, it is not possible to be certain that they represent a taxon constantly different from the named varieties. If they do represent a distinct taxon, based on specimens available, it may be described as follows.

Shrubs 2–3 m high; branching spreading, flattened; branchlets, peduncles and pedicels finely hairy to glabrous; spines straight, leaf opposed or at apex of small branchlets, usually forked. Petioles 1–2 mm long; stipules small, ovate, apiculate; leaf laminas elliptic to subobovate, 5.5–9.0 (–18.0) x 3.5–9.0 (–16.0) mm, obtuse or retuse at apex, subacute at base, flat or slightly recurved at margins, ± thin, coriaceous; adaxial surface shiny or with a slight sheen; midrib and 1 pair of lateral nerves usually distinct. Inflorescences 1–3-flowered; peduncles and pedicels 0.5–1.5 mm long; flower buds narrowly ellipsoid to narrowly obovoid, 5.5–7.5 mm long, with minute slender, acuminate, hairy lobes at apex; calyx indistinctly lobed, c.1 mm long; corolla 6.0–7.0 mm long; tube cylindrical, 3.5–5.5 mm long, c. 2.5 mm wide at mouth, densely reflexed hairy at throat; lobes 2.5–3.5 x c.1.25 mm, subacuminate; stamen filaments 0.5-1.5 mm long; anthers 1.0–1.5 mm long; style with stigma c. 3 mm long. Fruit ellipsoid, c. 5.0 x c. 5.5 mm.

Specimens studied: **Queensland.** Cook District: Goode Island, in 1881, *Powell* 26 [MEL 1538045] (MEL); Cairncross Island, Aug 1855, collector unknown [MEL 1538072] (MEL); Moa Island, Thomas Swamp, Aug 1985, *Budworth* 355 (BRI); Moa Island, Apr 1987, *Budworth* 973 (BRI); Galloways Hill, 10°46'S, 142°28'E, Sep 1991, *Sankowsky & Sankowsky* 1234 (BRI); Weipa Rd, 83 km W of Cape York Development Rd, 13°14'S, 142°41'E, Jul 1984, *Puttock & King* UNSW 16975 (BRI); 5.5 km W of Lockhardt River turn off on Portlands Rd, 12°44'S, 143°15'E, Jul 1984, *Puttock & King* 16791 (BRI, UNSW); 6 km W of Rocky River mouth, 36.2 km ENE of Coen, Silver Plains Holding, Cape York Peninsula, 13°46'S, 143°29'E, Aug 1993, *Fell* 3480 (BRI); 5 miles (8 km) N of Crossing on Massy Creek Rd, below Silver Plains Station and Rocky River, Oct 1969, *Webb & Tracey* 9719 (BRI); 3 km N of Massy Creek Crossing, Silver Plains Station, 13°53'S, 143°31'E, Jun 1992, *Forster* PIF10574, *Sankowsky & Tucker* (BRI); ditto, *Forster* PIF10568, *Sankowsky & Tucker* (BRI).

Distribution and habitat: Cape York Peninsula, Queensland, including the Torres Strait islands; usually in evergreen vine thickets, on sandy beach ridges on fine white sand. Map 1.

Notes: The leaf laminas in the above specimens are quite variable, being elliptic, thin, coriaceous and with slightly recurved margins in those from Massy Creek, subobovate, flat and thin in the Torres Strait Islands specimens, and flat, thick and coriaceous in the remainder. However, in their overall aspect and colour of branchlets and indumentum, the specimens appear to be from the same taxon and are, therefore, tentatively treated together. Examination of more specimens from the above areas is necessary before the variability and affinities of these collections can be fully assessed.

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References:

BENTHAM, G., (1867). *Canthium,* in *Flora Australiensis* 3:420-423. London: Lovell Reeve & Co.

BLAKE, S.T. (1955). Some Pioneers in Plant Exploration and Classification. *Proceedings of the Royal Society of Queensland* 66: 1-19.

BRIDSON, D.M. (1985). The reinstatement of *Psydrax* (*Rubiaceae* subfamily *Cinchonoideae* tribe *Vanguierieae*) and a revision of the African species. *Kew Bulletin* 40(4):687-725.

——(1987). Studies in African *Rubiaceae-Vanguerieae*: a new circumscription of *Pyrostria* and a new subgenus, *Canthium* subgenus *Bullockia*. *Kew Bulletin* 42(3): 611-639.

—— (1992). The genus *Canthium (Rubiaceae-Vanguerieae)* in Tropical Africa. *Kew Bulletin* 47(3):353-401.

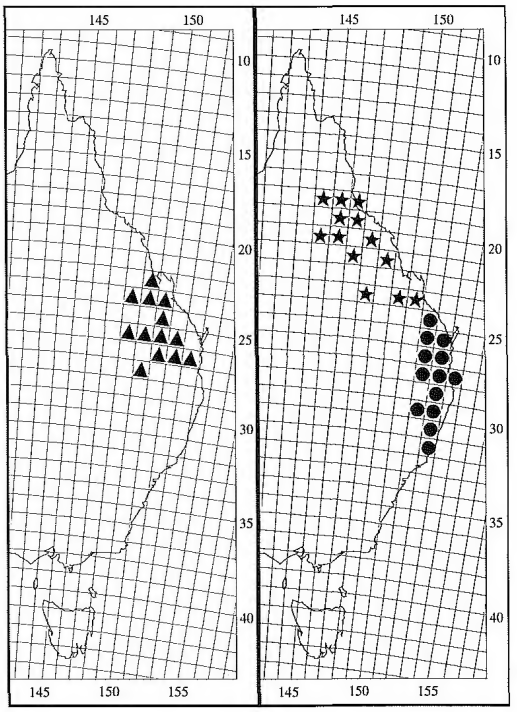
LEBLER, B.A. (1978). The Canthiums of Southeastern Queensland. *Queensland Agricultural Journal* 104 (6):527- 532. Brisbane: Government Printer.

MUELLER, F. (1859). *Transactions of the Philosophical Institute of Victoria* 3:47.

—— (1861). *Fragmenta phytographiae Australiae* 2:134.

——(1875). *Fragmenta phytographiae Australiae* 9:186.

REYNOLDS, S.T. (1997). *Canthium*, in R.J. Henderson (ed.), *Queensland Plants: Names and Distribution* p. 180-181. Brisbane: Queensland Herbarium, Department of Environment.



Map 1. *Everistia vacciniifolia* f. *vacciniifolia* ▲, *Everistia vacciniifolia* f. *crassa* ★, *Everistia vacciniifolia* var. *nervosa* ●.